Proposed Amendments to the Dry Cleaning Regulation

May 25, 2006

California Environmental Protection Agency

Air Resources Board

Agenda

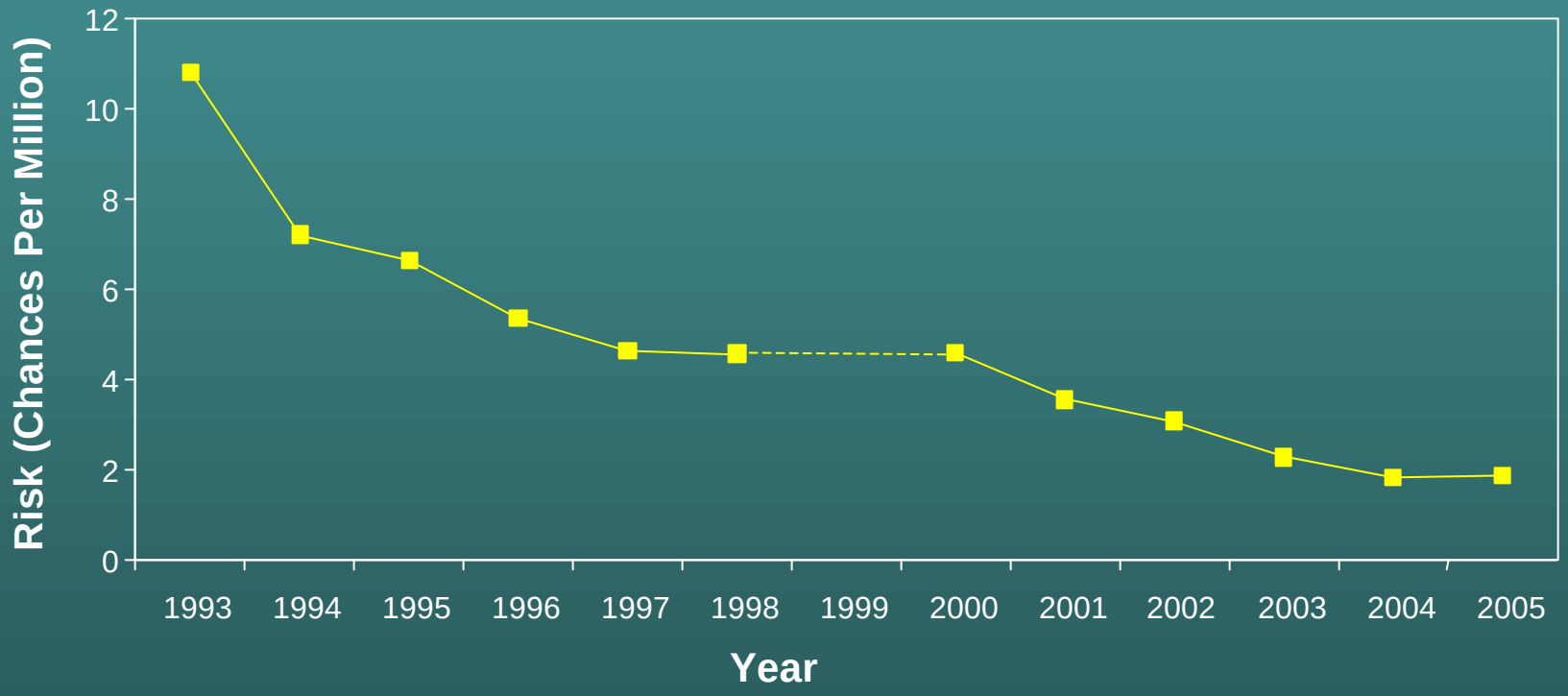
- **Background**
- **Proposed Regulation**
- **Impacts**
- **Key Issues**
- **Next Steps**
- **Recommendations**

Background

Perc Regulatory Efforts

- **ARB identifies Perc as a toxic (1991)**
- **ARB adopts control measures:**
  - ⇨ **Dry Cleaning (1993)**
  - ⇨ **Aerosol Adhesives (2000)**
  - ⇨ **Automotive Products (2000)**
  - ⇨ **Consumer Products (2004)**
- **Districts adopt degreasing rules (1990s)**

Perc Ambient Air Risk



Statewide Average Ambient Risk Levels for Selected Toxics

Ranking	Average risk (per million)
Diesel PM	540
Benzene	46
1,3-Butadiene	41
Carbon Tetrachloride	29
Formaldehyde	21
para-Dichlorobenzene	10
Perchloroethylene	2
Methylene Chloride	1

Near Source Risk With Current Controls

Potential Cancer Risk (Chances Per Million)	Percent of Facilities
< 10	28
10 to 25	56
> 25	16

Based on computer modeling, 2003 survey of facilities, and lifetime exposure of 70 years

Why the Need for Additional Controls

- **80% of Perc emitted from dry cleaning**
- **Near source risk too high**
  - ⇨ **70% of facilities have risk greater than 10 in a million**
- **Provide separation between facilities, homes/schools**

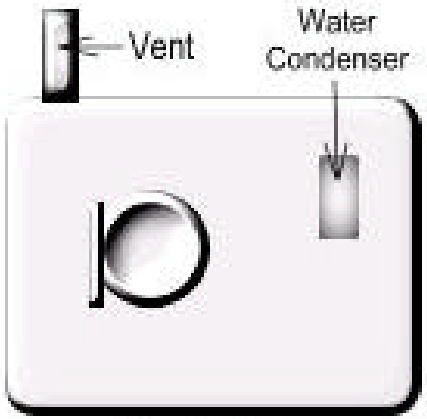
Dry Cleaning Industry

- **4,300 Perc facilities statewide**
- **Small businesses; owner-operated**
  - ⇨ **Annual average revenue about $250,000**
  - ⇨ **85% less than five employees**
  - ⇨ **92% operate a single machine**
- **Often located near residences**
- **About 80 are co-residential facilities**

Machine Types for Perc Dry Cleaning

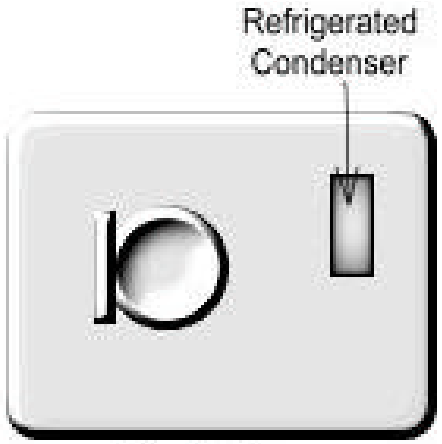
Converted Machines

Vented Machine

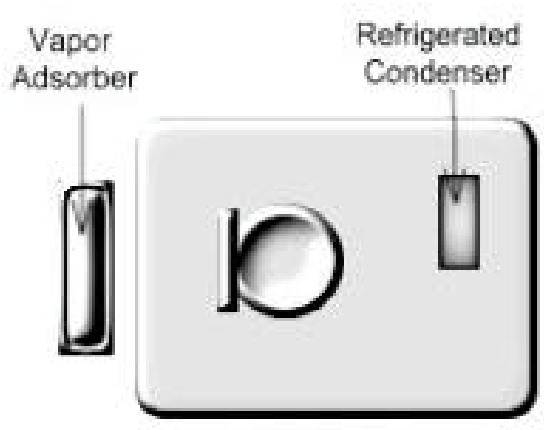


Add-on and integral

Primary Control Machine



Secondary Control Machine



BACT is an integral secondary control machine

Perc Dry Cleaning Machines

- **Distribution of Perc machines (2003)**
  - ⇨ **Converted 2 %**
  - ⇨ **Primary 64 %**
  - ⇨ **Secondary 34 %**
- **Emissions**
  - ⇨ **Converted 3 %**
  - ⇨ **Primary 75 %**
  - ⇨ **Secondary 22 %**

Ventilation Systems

- **Existing systems are ineffective**
- **Enhanced ventilation systems:**
  - ⇨ **capture fugitive emissions**
  - ⇨ **release via a stack**
  - ⇨ **reduce worker and near source exposure**

Dry Cleaning Alternatives

Perc Dry Cleaning Alternatives	Market share (percent)*	Cost compared to Perc	Issues
Hydrocarbon	8	+10% to +18%	Cost, smog
Green Earth	2	+50%	Cost, uncertain toxicity
Water	<1	+30%	Cost, acceptability, new technology
Carbon Dioxide	<1	+108%	Cost, new technology

*2003 data

Current Market Share

Perc Dry Cleaning Alternatives	Market share (percent)*
Hydrocarbon	30
Green Earth	3
Water	1
Carbon Dioxide	<1

*2006 data

Summary of the Proposed Regulation

Key Considerations

- **Apply to areas outside SCAQMD**
- **Eliminate Perc use at co-residential facilities**
- **Reduce near source risk at existing facilities**
- **Provide a separation zone for new facilities**
- **Reduce economic impacts**

Emissions

- **2,300 facilities outside South Coast**
- **2,460 machines**
- **Emissions - 2.6 tons/day outside South Coast**

Co-Residential Facilities

Proposed Action:

- **Prohibit new co-residential Perc operations**
- **Remove existing Perc machine**

Results:

- **Eliminates potential source of high localized risk**

Existing Facilities

Proposed Actions:

- Replace machines with non-Perc or Perc machines with BACT
- Install enhanced ventilation systems
- Quicker phase-in for machines located within 100 feet of a sensitive receptor
- Complete conversion to BACT for Perc machines by 2016

Existing Facilities

Results:

- **About 1,500 facilities required to replace existing machines**
- **Achieve 40% reduction in Perc emissions**
- **Achieve 65-75% reduction in near source risk**

New Facilities

Proposed Actions:

- **Prohibit Perc facilities:**
  - ⇨ **within 300 feet from sensitive receptors and**
  - ⇨ **within 300 feet from the boundary of any area zoned residential**
- **For all others, install non-Perc machine or Perc machine with BACT and enhanced ventilation**

New Facilities

Results:

- **Ensure very low risk levels for sensitive receptors**
- **All Perc machines will have BACT and enhanced ventilation systems**

Implementation Schedule

- **Co-residential facilities**
  - ⇨ **New** **July 2007**
  - ⇨ **Existing** **July 2010**
- **New Perc facilities**
  - ⇨ **July 2007**

Implementation Schedule

- **Existing facilities**
  - ⇨ 840 machines — Already use BACT
  - ⇨ 480 machines — July 2009
  - ⇨ 590 machines — July 2010
  - ⇨ Rest (550 machines) — July 2011-2016
- **Enhanced ventilation**
  - ⇨ 810 machines — July 2009
  - ⇨ 1450 machines — July 2010

Other Requirements

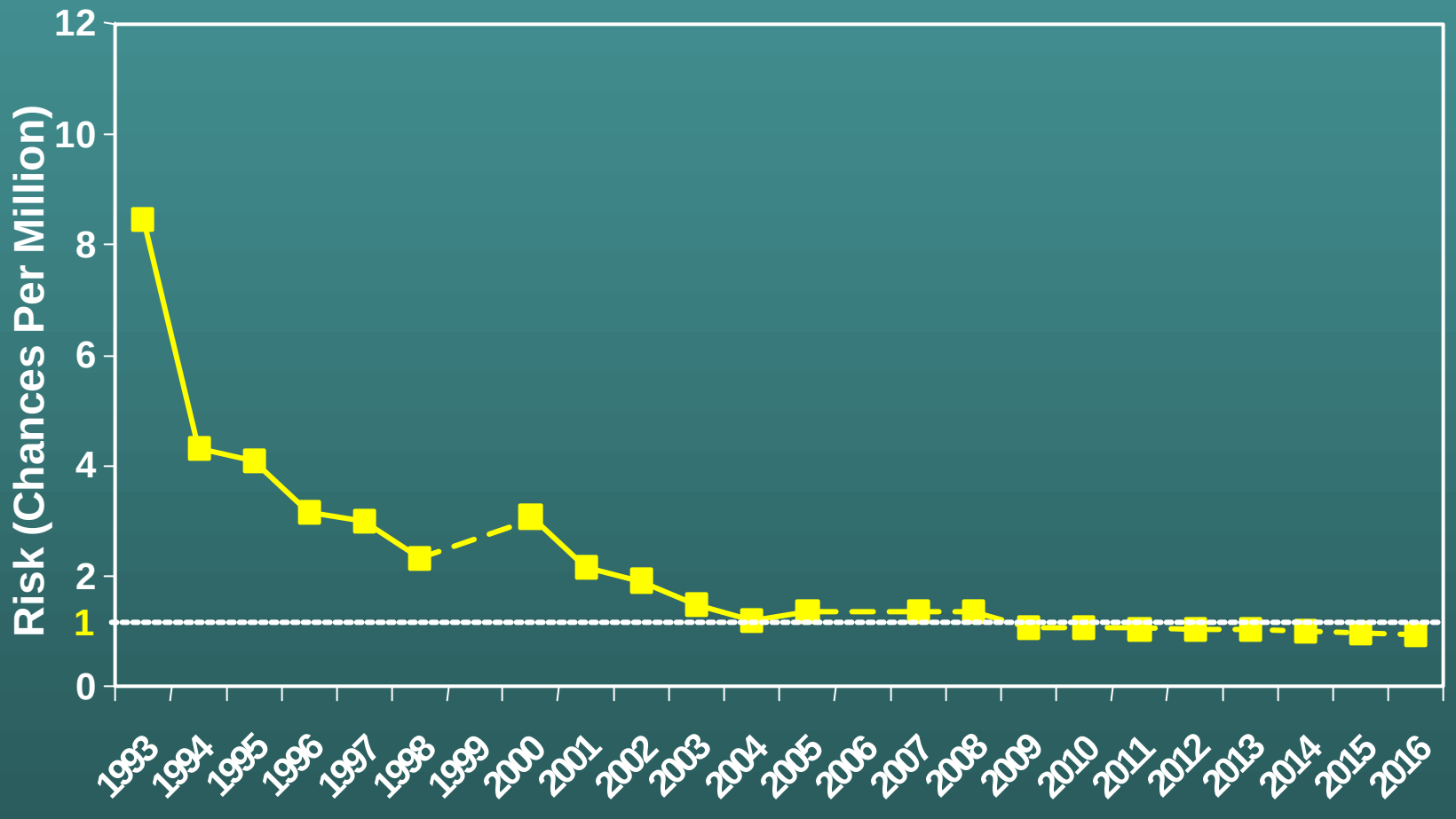
- **Good operating practices**
- **Recordkeeping**
- **Reporting**
- **Certification procedure for integral secondary control machines**

Potential Impacts of the Proposed Regulation

Benefits of Proposed Action

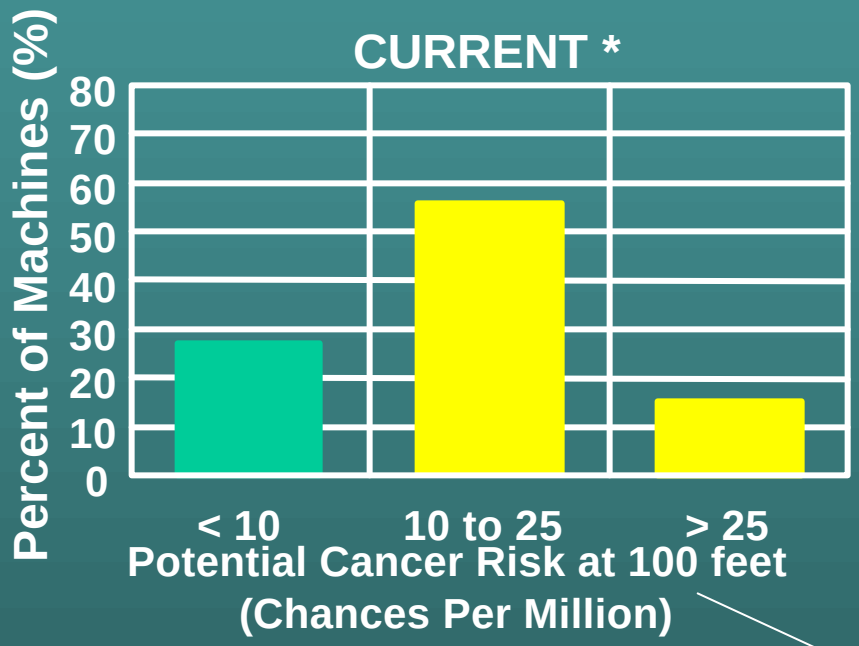
- **Eliminates risk at co-residential facilities**
- **Existing facilities**
  - ⇨ **65 to 75 percent risk reduction**
  - ⇨ **Most will have risk <10 in a million**
  - ⇨ **Reduced worker exposure**
- **Ensures very low risk levels at new facilities**

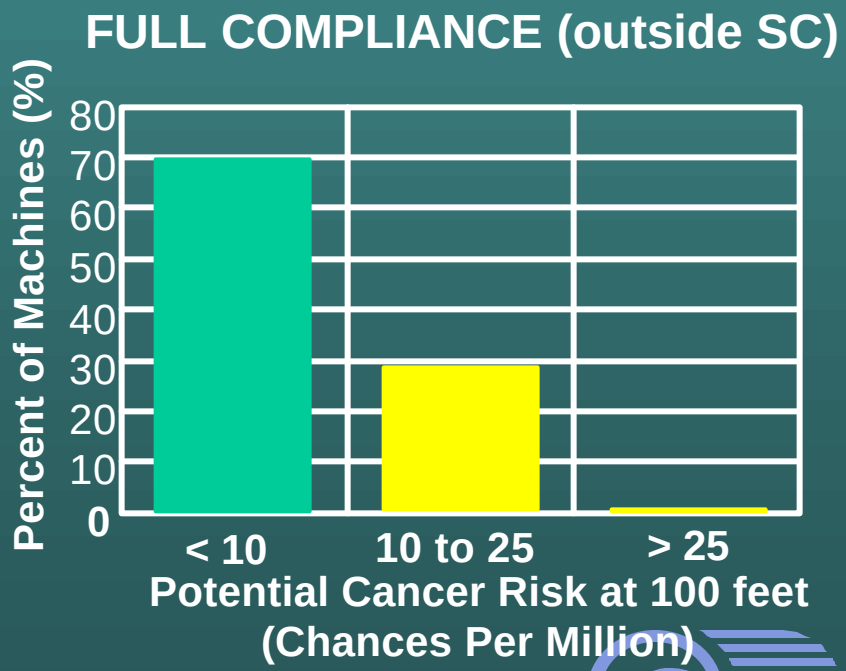
Ambient Perc Risk Reduction



(Outside of South Coast)

Near Source Risk Reduction





* Based on 2003 survey data

Cost to Dry Cleaners

- **Annual costs is between $2,000 to $15,500 per year for 5 years**
- **To recover costs, a dry cleaning bill of $15 would increase by 10 cents to 90 cents.**
- **About 40% of facilities may have significant adverse impacts if unable to pass on costs**

Key Issues

Phase-out of Perc

Issue:

- **Several commenters have recommended a phase-out of Perc at a future date similar to the approach used by the SCAQMD**

Phase-out of Perc

- **SCAQMD amended Rule 1421 in 2002**
- **Major requirements:**
  - ⇨ **Secondary control for existing Perc machines and meet specified risk levels**
  - ⇨ **Remove all Perc machines by the end of 2020**

Phase-out of Perc

Response:

- **Proposed rule reduces risk to low levels**
  - ⇨ **70% will be under 10 in a million**
  - ⇨ **99% will be under 25 in a million**
- **Phase-out imposes greater costs**
- **Lessens increase in hydrocarbon emissions**
- **Local districts may adopt own rule**

Use of HC Machines

Issue:

- **Several commenters suggested we prohibit HC machines because of impacts on smog**
- **Several other commenters supported the use of HC machines with HC impacts mitigated in upcoming SIPs**

Use of HC Machines

Response:

- **HC machines are most common alternative**
- **Non-Perc, non-HC machines are more costly, not widely accepted within industry, or have uncertain health effects**
- **HC emissions increases fairly small (~1 ton/day outside of South Coast)**
- **Second generation HC machines may be needed**

Industry Concerns

Issues:

- **Dry Cleaners are small, family-owned businesses**
- **Costs to comply will force some to close**
- **Machines can last longer than 15 years**
- **Alternatives uncertain**

Industry Concerns

Response:

- **Near source risk too high and most machines no longer represent BACT**
- **Provide at least 2 to 3 years lead time**
- **Allow full useful life for two-thirds of machines**
- **Reasonable opportunity to recover costs**

Other Comments

- **Technical**
- **Regulatory language**
- **Implementation/timing**
- **Siting criteria**

Next Steps

Next Steps

- Continue review of technologies for opportunities to further reduce Perc and hydrocarbons
- Develop amendments to the existing training requirements
- Continue implementing AB 998

AB 998 Program

- Encourage use of non-toxic, non-smog forming alternatives (water-based, CO2)
- Grant Program
  - ⇨ 14 grants awarded in 2005
  - ⇨ 30 applications in process for 2006
- Demonstration Program
  - ⇨ Currently requesting proposals

Recommendations

Recommendations

- **Adopt the proposed regulatory amendments**
- **Direct staff to review technical comments and propose 15 day changes, if appropriate**
- **Promote non-toxic and non-smog forming alternatives**
- **Direct staff to closely track alternatives and report back to the Board on progress**